

1 1. A system, comprising:
2 a signal generator;
3 impedance mismatch hardware coupled to the signal generator, wherein
4 the impedance mismatch hardware includes at least one impedance; and
5 a controller coupled to the impedance mismatch hardware, said controller
6 to adjust the impedance mismatch hardware, wherein the controller to determine whether
7 a telephone loop is capable of carrying Digital Subscriber Line service.

1 2. The system of claim 1, wherein the impedance is resistive, capacitive or
2 inductive impedance.

1 3. The system of claim 2, further comprising a termination impedance
2 coupled to the impedance mismatch hardware.

1 4. The system of claim 1, wherein the impedance mismatch hardware
2 modifies one or more characteristics of a received signal, wherein the received signal is
3 an echo of a signal transmit from the signal generator.

1 5. The system of claim 4, wherein the received signal determines the
2 capability of a subscriber's loop to carry Digital Subscriber Line service.

1 6. The system of claim 4, wherein the controller is a fuzzy inference system
2 controller.

1 7. The system of claim 6, wherein the fuzzy inference system controller
2 adjusts the impedance of one or more components in the impedance mismatch hardware
3 to modify one or more characteristics of the received signal.

1 8. The system of claim 7, wherein after the received signal is modified to a
2 maximal value, a time between the transmit signal and received signal is used to
3 determine a length of the telephone loop and other loop characteristics.

1 9. The system of claim 8, wherein the length of the telephone loop and other
2 loop characteristics are used to determine if the telephone loop is capable of carrying
3 DSL service.

1 10. A method, comprising:
2 transmitting a first signal;
3 receiving a second signal, wherein the second signal has an amplitude; and
4 adjusting one or more impedances to amplify the second signal amplitude
5 using impedance mismatch hardware.

1 11. The method of claim 10, further comprising:
2 calculating a time delay from the amplified second signal amplitude; and
3 wherein the impedance mismatch hardware couples to a fuzzy inference
4 system controller.

1 12. The method of claim 11, further comprising determining loop length, loop
2 taps, and insertion loss from the time delay.

1 13. The method of claim 12, further comprising determining whether a
2 telephone loop is capable of carrying Digital Subscriber Line service from the loop
3 length, loop taps, and insertion loss.

1 14. An article comprising a storage medium storing instructions that when
2 executed by a machine result in:
3 transmitting a first signal;
4 receiving a second signal containing an amplitude, wherein the second
5 signal is an echo of the first signal; and
6 adjusting one or more impedances to amplify the second signal amplitude.

1 15. The article of claim 14, wherein the instructions when executed also result
2 in:
3 determining whether the second signal amplitude is an amplified value;
4 calculating a time delay from the amplified value; and
5 adjusting the impedances by fuzzy inferencing.

1 16. The article of claim 15, wherein the instructions when executed also result
2 in:
3 determining loop characteristics from the time delay.

1 17. The article of claim 15, wherein the instructions when executed also result
2 in:
3 determining loop length, loop taps, and insertion loss from the time delay.

1 18. The article of claim 17, wherein the instructions when executed also result
2 in:
3 determining whether a telephone loop is capable of carrying Digital Subscriber
4 Line service from the loop length, loop taps, and insertion loss.